WE CLAIM:

1. A drive circuit for driving a display device comprising electro-optical material disposed between a common electrode and an array of pixel electrodes, said drive circuit comprising:

pixel drive circuits connected to respective ones of the pixel electrodes and operable to generate respective pixel drive signals alternating between a first high voltage and a first low voltage differing in voltage by less than or equal to a process-limited maximum; and

a common drive circuit connected to the common electrode and operable to generate a common drive signal alternating between a second high voltage and a second low voltage differing in voltage by more than the process-limited maximum, the common drive signal being asymmetrically bipolar with respect to the first low voltage.

2. The drive circuit of Claim 1, wherein the first low voltage and the second low voltage differ in voltage by less than or equal to a threshold voltage at which an electro-optical response is produced by the electro-optical material.

3. The drive circuit of Claim 2, wherein the first high voltage and the second high voltage differ in voltage by less than or equal to the threshold voltage.

4. The drive circuit of Claim 1, wherein the common drive signal is substantially periodic between the second low voltage and the second high voltage.

5. The drive circuit of Claim 1, wherein the first low voltage is 0 volts and the first high voltage is 1.8 volts.

6. The drive circuit of Claim 5, wherein the second low voltage is –1.0 volts and the second high voltage is 2.8 volts.

7. The drive circuit of Claim 1, wherein said pixel drive circuits are located on a substrate of the display device including the array of pixel electrodes, said pixel drive circuits underlying respective ones of the pixel electrodes.

8. The drive circuit of Claim 7, wherein said common drive circuit is located on the substrate.

9. The drive circuit of Claim 8, wherein said common drive circuit includes a transistor of a size greater than or equal to 350 nm.

10. The drive circuit of Claim 7, wherein said common drive circuit is located external to the substrate.

11. The drive circuit of Claim 10, wherein the substrate includes a timing circuit connected to said common drive circuit to control the timing of the common drive signal.

12. The drive circuit of Claim 11, wherein the timing circuit alternates between the first low voltage and the first high voltage, said common drive circuit converting the first low voltage to the second low voltage and the first high voltage to the second high voltage.

13. The drive circuit of Claim 7, wherein the process-limited maximum is the breakdown voltage of said pixel drive circuits.

14. The drive circuit of Claim 1, wherein at least one of said pixel drive circuits and said common drive circuit is further operable to vary the phase relationship between the respective pixel drive signals and the common drive signal.

15. The drive circuit of Claim 1, wherein said pixel drive circuits each include a transistor of a size less than or equal to 180 nm.

16. The drive circuit of Claim 14, wherein the process-limited maximum is less than or equal to 1.8 volts.

17. A method for driving a display device comprising electro-optical material disposed between a common electrode and an array of pixel electrodes, said method comprising:

driving each of the pixel electrodes with a respective pixel drive signal alternating between a first high voltage and a first low voltage differing in voltage by less than or equal to a process-limited maximum; and

driving the common electrode with a common drive signal alternating between a second high voltage and a second low voltage differing in voltage by more than the process-limited maximum, the common drive signal being asymmetrically bipolar with respect to the first low voltage.

18. The method of Claim 17, further comprising:

determining a threshold voltage at which an electro-optical response is produced by the electro-optical material; and

setting the first low voltage and the second low voltage to differ in voltage by less than or equal to the threshold voltage and the first high voltage and the second high voltage to differ in voltage by less than or equal to the threshold voltage.

19. The method of Claim 17, wherein said driving the common electrode includes generating the common drive signal substantially periodic between the second low voltage and the second high voltage.

20. The method of Claim 17, wherein said driving the common electrode includes generating the common drive signal on a substrate of the display device, the substrate including the array of pixel electrodes.

21. The method of Claim 17, wherein said driving the common electrode further includes generating the common drive signal external to a substrate of the display device, the substrate including the array of pixel electrodes.

22. The method of Claim 21, wherein said generating the common drive signal further includes generating a timing signal on the substrate to control the timing of the common drive signal.

23. The method of Claim 22, wherein said generating the timing signal further includes alternating the timing signal between the first low voltage and the first high voltage, said driving the common electrode further comprising converting the first low voltage to the second low voltage and the first high voltage to the second high voltage.

24. The method of Claim 17, further comprising:

varying phase relations between the respective pixel drive signals and the common drive signal.